

REMARKS

In the November 16, 2009 Office Action, all of pending claims 1-3 and 5-19 stand rejected in view of prior art. On the other hands, claims 4 and 20 were indicated as objected to in the Office Action Summary. However, no objection or rejection of these claims was set forth in the body of the Office Action. Thus, Applicants believe claims 4 and 20 were meant to be objected to as being dependent on a rejected base claim but indicated as containing allowable subject matter if rewritten in independent form. Applicants wish to thank the Examiner for this apparent indication of allowable subject matter and the thorough examination of this application. No other objections or rejections were made in the Office Action.

Status of Claims and Amendments

In response to the November 16, 2009 Office Action, none of the claims are being amended by the current Amendment. Thus, claims 1-20 are pending, with claims 1 and 11 being the only independent claims. Reexamination and reconsideration of the pending claims are respectfully requested in view of above amendments and the following comments.

Rejections - 35 U.S.C. § 103

In paragraphs 3 and 4 of the Office Action, claims 1-3 and 5-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over prior art as follows:

Rejection (A) Claims 1-3, 8-14, 18 and 19 stand rejected as being unpatentable over U.S. Patent No. 4,672,993 (Bilak) in view of U.S. Patent No. 3,339,883 (Drake); and

Rejection (B) Claims 5-7 and 15-17 stand rejected as being unpatentable over the combination of the Bilak patent and the Drake patent and further in view of U.S. Patent No. 6,113,157 (Wilkins).

In response, Applicants respectfully traverse these rejections as explained below.

Rejection (A) – Claims 1-3 and 8-10

Independent claims 1 requires a push rod having a protruding portion; and a main body having

an upper end and a lower end spaced in a push rod longitudinal direction, said protruding portion of said push rod protruding along said push rod longitudinal direction from said upper end of said main body,

a push rod storage space being formed in said main body, said push rod storage space housing said push rod,

a communication path being formed in said main body at said lower end,

a seal structure forming part being formed on an outer circumference of said main body at said upper end, and

a male thread part being configured to thread together with a female thread part of a nut member along the push rod longitudinal direction,

said seal structure forming part surrounding said push rod storage space and being configured to form a seal structure by directly contacting a first tapered part of the nut member when said female thread part and said male thread part are threaded together,

a portion of said protruding portion being configured to contact a part of said nut member when installed, said push rod being movable toward said lower end of said main body along the push rod longitudinal direction to communicate with a fluid passageway of said nut member and said communication path.

The Office Action asserts that the Bilak patent discloses a push rod (12), a protruding portion (27), a main body (15, 16), an upper end (adjacent element 27 in Figure 4), a lower end (adjacent element 23 in Figure 4), a push rod storage space (19), a communication path (below the lead line for element 19 in Figure 3), a seal structure (surface of element 27), a female thread part (21), a nut (30 having a male threaded part (surface of element 30), forming a seal structure by directly contacting a first tapered part (18). The Office Action then relies on the Drake patent to disclose a male threaded part (26) and a nut (58) having a female threaded part (64). The Office Action then asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the joint of the Bilak patent by having a main body with male threads and the nut having female threads as taught by Drake to result in the arrangement of independent claim 1.

Applicants disagree. In particular, the so-called main body (15, 16) of the Bilak patent lacks *a seal structure forming part being formed on an outer circumference of said main body at said upper end*, that is *configured to form a seal structure by directly contacting a first tapered part of the nut member when said female thread part and said male thread part are threaded together*. The seal structure forming part of independent claim 1 is part of the main body and is configured to directly contact the nut. On the other hand, in the Bilak patent the so-called main body (15, 16) and the so-called nut (30) do not directly contact each other whatsoever, except for the threaded connection therebetween. In fact, the so-called protruding part (27) of the so-called push rod (12) is disposed between surfaces of the elements (16) and (30) in the Bilak patent. The part (27) of the so-called push rod (12) cannot be part of both the main body and the push rod as claimed because independent claim 1 further requires that said push rod being movable toward said lower end of said main body along the push rod longitudinal direction to communicate with a fluid passageway of said nut member and said communication path. Therefore, the part (27) in the Bilak patent cannot be considered part of a main body as claimed. Furthermore, the Drake patent also fails to disclose or suggest direct contact of a main body and a nut as set forth in independent claim 1. In fact, the Drake patent also utilizes an intermediary part (48) of the rod member 38 disposed between the male threaded member (10) and the female threaded member (58, 66). Accordingly, even if the female/male threaded connection between the elements (16) and (30) in the Bilak patent was somehow changed to a male/female threaded connection as asserted in the Office Action, the so-called main body (15, 16) of the Bilak patent will still lack *a seal structure forming part being formed on an outer circumference of said main body at said upper end*, with the... *seal structure forming part being configured to form a seal structure by directly contacting a first tapered part of the nut member when said female thread part and said male thread part are threaded together*, as required by independent claim 1.

Under U.S. patent law, the mere fact that the prior art can be modified does *not* make the modification obvious, unless an *apparent reason* exists based on evidence in the record or scientific reasoning for one of ordinary skill in the art to make the modification. See, KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1741 (2007). The KSR Court noted that obviousness cannot be proven merely by showing that the elements of a claimed device were

known in the prior art; it must be shown that those of ordinary skill in the art would have had some “apparent reason to combine the known elements in the fashion claimed.” Id. at 1741. In this case, the current record lacks any apparent reason, suggestion or expectation of success for combining the patents, and then further modifying the hypothetical device created by such a hypothetical combination to create Applicants’ unique arrangement of *a seal structure forming part being formed on an outer circumference of said main body at said upper end*, with the... *seal structure forming part being configured to form a seal structure by directly contacting a first tapered part of the nut member when said female thread part and said male thread part are threaded together*. Based on the above arguments, withdrawal of Rejection (A) of independent claim 1 is respectfully requested.

Moreover, Applicants believe that dependent claims 2, 3 and 8-10 are also allowable over the prior art of record in that they depend from independent claim 1, and therefore are allowable for the reasons stated above. Also, dependent claims 2, 3 and 8-10 are further allowable because they include additional limitations, which in combination with the limitations of independent claim 1, are not disclosed or suggested by the hypothetical combination of the Bilak patent and the Drake patent. Accordingly, Applicants respectfully request that this rejection of dependent claims 2, 3 and 8-10 also be withdrawn in view of the above comments and amendments.

Rejection (B) – Claims 5-7

The Wilkins patent is relied upon to allegedly disclose the features of dependent claims 5-7 lacking from the hypothetical combination of the Bilak patent and the Drake patent. However, the Wilkins patent fails to account for the deficiencies of this hypothetical combination with respect to independent claim 1. Specifically, the Wilkins patent fails to disclose or suggest, *inter alia, a seal structure forming part being formed on an outer circumference of said main body at said upper end*, with the... *seal structure forming part being configured to form a seal structure by directly contacting a first tapered part of the nut member when said female thread part and said male thread part are threaded together*, as set forth in independent claim 1. Accordingly, withdrawal of this rejection of dependent claims 5-7 is respectfully requested.

Rejection (A) – Claims 11-14, 18 and 19

Independent claims 11 requires a push rod having a protruding portion;

a main body having

an upper end and a lower end spaced in a push rod longitudinal direction, said protruding portion of said push rod protruding along said push rod longitudinal direction from said upper end of said main body, a push rod storage space being formed in said main body, said push rod storage space housing said push rod,

a communication path being formed in said main body at said lower end,

a seal structure forming part being formed on an outer circumference of said main body at said upper end, and

a male thread part,

said seal structure forming part surrounding said push rod storage space and being configured to form a seal structure by directly contacting a first tapered part of a piping; and

a nut member including

a female thread part selectively threaded with said male thread part along the push rod longitudinal direction,

a second tapered part inclined toward an outer circumferential side and toward a female thread part side, and

an opening being formed in said nut member to insert the piping,

said seal structure forming part and said second tapered part being configured to sandwich and to press a portion of said first tapered part of the piping in a state in which said female thread part and said male thread part are screwed together and the piping is inserted in said opening of said nut member so that said first tapered part directly contacts said second tapered part, and said protruding portion directly contacts another portion of the first tapered part,

said push rod being movable toward said lower end of said main body along the push rod longitudinal direction to communicate with a fluid passageway and said communication path.

The Office Action asserts that the Bilak patent discloses a push rod (12), a protruding portion (27), a main body (15, 16), an upper end (adjacent element 27 in Figure 4), a lower end (adjacent element 23 in Figure 4), a push rod storage space (19), a communication path

(below the lead line for element 19 in Figure 3), a seal structure (surface of element 27), a female thread part (21), a nut (30 having a male threaded part (surface of element 30), forming a seal structure by directly contacting a first tapered part (18). The Office Action then relies on the Drake patent to disclose a male threaded part (26) and a nut (58) having a female threaded part (64). The Office Action then asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the joint of the Bilak patent by having a main body with male threads and the nut having female threads as taught by Drake to result in the arrangement of independent claim 11.

Applicants disagree. In particular, the so-called main body (15, 16) of the Bilak patent lacks *a seal structure forming part being formed on an outer circumference of said main body at said upper end*, with the... *seal structure forming part being configured to form a seal structure by directly contacting a first tapered part of a piping*. The seal structure forming part of independent claim 11 is part of the main body and is configured to directly contact the piping. On the other hand, in the Bilak patent the so-called main body (15, 16) and the tapered surface of the pipe (29) do not directly contact each other whatsoever, except for the threaded connection therebetween. In fact, the so-called protruding part (27) of the so-called push rod (12) is disposed between surfaces of the elements (16) and (29) in the Bilak patent. The part (27) of the so-called push rod (12) cannot be part of both the main body and the push rod as claimed because independent claim 11 further requires that said push rod being movable toward said lower end of said main body along the push rod longitudinal direction to communicate with a fluid passageway and said communication path. Therefore, the part (27) in the Bilak patent cannot be considered part of a main body as claimed. Furthermore, the Drake patent also fails to disclose or suggest direct contact of a main body and a tapered surface of a piping as set forth in independent claim 11. In fact, the Drake patent also utilizes an intermediary part (48) of the rod member 38 disposed between the male threaded member (10) and the female pipe (52). Accordingly, even if the female/male threaded connection between the elements (16) and (30) in the Bilak patent was somehow changed to a male/female threaded connection as asserted in the Office Action, the so-called main body (15, 16) of the Bilak patent will still lack *a seal structure forming part being formed on an outer circumference of said main body at said upper end*,

with the... *seal structure forming part being configured to form a seal structure by directly contacting a first tapered part of a piping*, as required by independent claim 11.

Under U.S. patent law, the mere fact that the prior art can be modified does *not* make the modification obvious, unless an *apparent reason* exists based on evidence in the record or scientific reasoning for one of ordinary skill in the art to make the modification. See, KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1741 (2007). The KSR Court noted that obviousness cannot be proven merely by showing that the elements of a claimed device were known in the prior art; it must be shown that those of ordinary skill in the art would have had some “apparent reason to combine the known elements in the fashion claimed.” Id. at 1741. In this case, the current record lacks any apparent reason, suggestion or expectation of success for combining the patents, and then further modifying the hypothetical device created by such a hypothetical combination to create Applicants’ unique arrangement of *a seal structure forming part being formed on an outer circumference of said main body at said upper end*, with the... *seal structure forming part being configured to form a seal structure by directly contacting a first tapered part of a piping*. Based on the above arguments, withdrawal of Rejection (A) of independent claim 11 is respectfully requested.

Moreover, Applicants believe that dependent claims 12-14, 18 and 19 are also allowable over the prior art of record in that they depend from independent claim 11, and therefore are allowable for the reasons stated above. Also, dependent claims 12-14, 18 and 19 are further allowable because they include additional limitations, which in combination with the limitations of independent claim 1, are not disclosed or suggested by the hypothetical combination of the Bilak patent and the Drake patent. Accordingly, Applicants respectfully request that this rejection of dependent claims 12-14, 18 and 19 also be withdrawn in view of the above comments and amendments.

Rejection (B) – Claims 15-17

The Wilkins patent is relied upon to allegedly disclose the features of dependent claims 15-17 lacking from the hypothetical combination of the Bilak patent and the Drake patent. However, the Wilkins patent fails to account for the deficiencies of this hypothetical combination with respect to independent claim 1. Specifically, the Wilkins patent fails to disclose or suggest, *inter alia*, *a seal structure forming part being formed on an outer circumference of said main body at said upper end*, with the... *seal structure forming part*

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being configured to form a seal structure by directly contacting a first tapered part of a piping, as set forth in independent claim 11. Accordingly, withdrawal of this rejection of dependent claims 15-17 is respectfully requested.

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Allowable Subject Matter

Claims 4 and 20 were indicated as objected to in the Office Action Summary. However, no objection or rejection of these claims was set forth in the body of the Office Action. Thus, Applicants believe claims 4 and 20 were meant to be objected to as being dependent on a rejected base claim but indicated as containing allowable subject matter if rewritten in independent form. Applicants wish to thank the Examiner for this apparent indication of allowable subject matter and the thorough examination of this application. However, in response, Applicants have not amended claims 4 and 20 to place them in independent form because Applicants believe that independent claims 1 and 20 are not disclosed or suggested in the prior art, as explained above.

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In view of the foregoing amendment and comments, Applicants respectfully assert that claims 1-20 are now in condition for allowance. Reexamination and reconsideration of the pending claims are respectfully requested. If there are any questions regarding this Amendment, please feel free to contact the undersigned.

Respectfully submitted,

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